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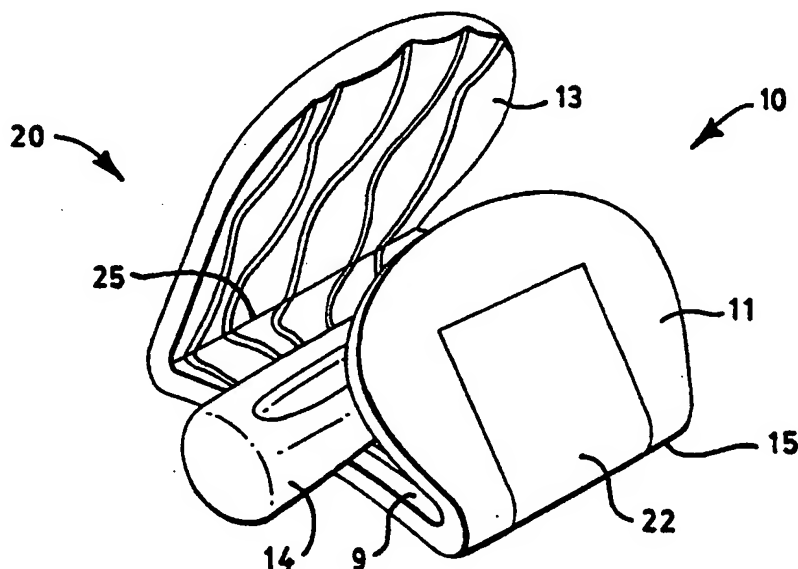
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(54) Title: PACKAGING ARTICLE CONTAINING A SANITARY NAPKIN FOLDED OVER A TAMPON



(57) Abstract: The feminine sanitary protection package and method provide a vaginal insertion device and a panty shield configured to fit the pudendal region of a woman. The panty shield is tri-folded over the vaginal insertion device. A pouch contains the combination including the panty shield and the vaginal insertion device. The pouch provides for transporting and disposing of the panty shield and vaginal insertion device.

WO 01/47457 A1



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## PACKAGING ARTICLE CONTAINING A SANITARY NAPKIN FOLDED OVER A TAMPON

BACKGROUND OF THE INVENTION

The present invention relates to a feminine sanitary protection package and method for protecting a user by absorbing and containing menstrual fluids and other body exudes. More specifically, this invention relates to a novel feminine sanitary protection package which provides substantially full and complete sanitary protection, ease in handling, and discretion in packaging appearance.

Absorbent articles are designed to absorb body fluids, including menses, and may come in different functional designs. In one design category, sanitary napkins are externally worn about the pudendal area and are designed primarily for heavy flow. In another category, panty liners or panty shields are thin products externally worn about the pudendal area and are designed for light flow. In yet another category, tampons are designed to be positioned internally within the vagina.

Sanitary napkins can have high absorptive capacity with either a thin or thick absorptive element. However, compressive forces of the wearer's thighs and pudendal region during any physical movement, such as walking, can cause the sanitary napkin to shift from an original position protecting the vulva area. After a relatively short period of time, the sanitary napkin may move away from the vaginal orifice. The wearer's movement, particularly vigorous movement such as rapid walking or running, also can cause discomfort such as by rubbing or chafing in the sensitive vulva area.

In addition to concerns of sanitary napkin movement and discomfort, a concern of high degree of wearing awareness is present. Some thick sanitary

napkins have a high profile appearance when viewed through a wearer's outer garments. The sanitary napkins can be very apparent when worn with tight fitting clothing including slacks, body suits, swimming suits, or similarly thin or close fitting outer garments.

5           Panty liners or panty shields have been developed for light or low menstrual flows. Some panty liners or panty shields have the same concerns associated with sanitary napkins, although their thin profile makes them more flexible, less noticeable in appearance, and generally more comfortable than the bulky sanitary napkins. However, the thin-profile panty liners or panty shields can have a  
10           drawback in the performance area of absorptive capacity.

          Tampons, are worn internally within the vaginal canal to intercept body fluid. Sometimes tampons may not function completely to prevent leakage because radial expansion of the tampon within the vaginal canal does not form a perfect seal. Yet without such radial expansion and swelling of the tampon within the  
15           vaginal canal, the tampon does not serve as a completely reliable sanitary protection device.

          In an attempt to address the above stated problems, a sanitary napkin or a panty liner is rolled about a tampon or similar device, and then inserted into a pouch. Thus, the user would have available a tampon or other similar device and  
20           either a sanitary napkin or a panty liner for use.

          However, additional problems arise associated with a napkin or panty liner rolled about a tampon or other similar device. One of these problems is that the napkin or panty liner can tend to curl after removal from the pouch, thereby making it more difficult to adhere the curled napkin or panty liner onto an undergarment.

25           Another problem associated with a rolled napkin or panty liner is the

possible loss of comfort and absorbency due to the undesired shape of a curled or partially curled napkin or panty liner.

Still another problem associated with a rolled napkin or panty liner is the potential loss of the embossing pattern on the cover, or the loss of some other cover characteristic.

### SUMMARY OF THE INVENTION

In response to the discussed difficulties and problems encountered in the prior art, a feminine sanitary protection package and method have been discovered.

In one form of the present invention there is provided a feminine sanitary protection package comprising a vaginal insertion device, a panty shield tri-folded over the vaginal insertion device to form a combination including the panty shield and the vaginal insertion device. A pouch is provided for containing the combination, and further provides a feature for transporting and disposing of the combination.

In another form of the present invention there is provided a feminine sanitary protection package comprising a vaginal insertion device, a panty shield folded over the vaginal insertion device to form a combination including the panty shield and the vaginal insertion device. A release strip is provided on the panty shield for attaching it to a garment. A pouch contains the combination, and provides a feature for transporting and disposing of the combination.

In still another form of the present invention there is provided a method for providing a feminine care sanitary protection package comprising the steps of (a) providing a vaginal insertion device, (b) providing a panty shield, (c) tri-folding the

panty shield over the vaginal insertion device to form a combination including the panty shield and the vaginal insertion device, and (d) providing a pouch for the combination for transporting and disposing of the combination.

5

#### BRIEF DESCRIPTION OF THE DRAWINGS

The above-mentioned and other features of the present invention and the manner of attaining them will become more apparent, and the invention itself will be better understood by reference to the following description of the invention, taken in conjunction with the accompanying drawings wherein:

10

Figure 1 illustrates an elevational view of a combination of a panty shield and a tampon;

Figure 2 illustrates a perspective view of the combination of Figure 1 in a partially tri-folded form;

15

Figure 3 illustrates a perspective view of a pouch containing the fully tri-folded combination of Figure 2;

Figure 4 illustrates an elevational view of a combination of a panty shield and a tampon applicator;

Figure 5 illustrates an elevational view of a combination of a panty shield and a vaginal suppository.

20

Figure 6 illustrates an elevational view of a combination of another panty shield and a tampon; and

Figure 7 illustrates the combination of Figure 6 formed into a pouch.

#### DETAILED DESCRIPTION

25

The feminine sanitary protection package and method of the present

invention provide a panty liner or panty shield folded over one or more vaginal  
insertion devices containing absorbents or medical devices for easy handling, use,  
and proper disposal. The term "folded" refers, by way of example only, to a C-fold  
or to a tri-fold as illustrated in Figure 2. The term "folded over" or variations thereof  
5 means the liner or shield has, for example, the tampon positioned within the folds.  
The term "vaginal insertion device" refers to a vaginal insert or vaginal insert  
applicator. By "vaginal insert", it is meant, by way of example only, a tampon or  
vaginal medicinal insert such as a vaginal suppository. By "vaginal insert  
applicator", it is meant, by way of example only, a tampon applicator or a vaginal  
10 medicinal insert applicator such as a vaginal suppository applicator.

The present invention fills a woman's need to have a panty shield or liner  
readily accessible when using absorbent devices, such as tampons, or vaginal  
suppositories for yeast or other infections.

In one aspect, the present invention includes a pouch and a combination of,  
15 for example, a panty liner or panty shield folded over one or more devices  
containing absorbents, or medical devices. This combination provides a more  
discreet, convenient, and portable option than carrying the devices separately. The  
pouch, made with biodegradable and/or non-biodegradable materials, serves to  
protect the adhesive element prior to wear, and acts as a packaging agent for both  
20 devices. The present invention further provides efficiencies in material and  
manufacturing costs, and ease in consumer handling.

One advantage of the present invention is that it conveniently contains the  
devices or products a woman needs to feel fresh and completely protected from  
stains on her undergarments or adjacent clothing. The present invention also  
25 provides a woman with an almost zero chance of experiencing staining on her

undergarments when using these products or devices together.

Another advantage of the present invention is that it is more discreet and convenient than carrying two or more separate devices. Thus, a woman does not need to go out and buy two or more separate devices, thereby saving money and time. Nor does she need to carry them around separately, and make sure when it comes time to use them that all of the separate devices or products still are available. The pouch keeps them fresh and protected from contamination.

The pouch of the present invention can be a separate pouch for transporting the combination of the panty liner or panty shield and device. The pouch keeps the combination clean, e.g., when the combination is kept and carried in a woman's purse, a brief case, backpack, or the like.

The pouch also provides a means for properly disposing of the combination of the panty liner or panty shield and device. The pouch can be composed of a plastic material, such as polyethylene or polypropylene, but may be composed of other materials, e.g., such as polyethylene oxide (PEO), polyvinyl alcohol (PVOH), polycaprolactone (PCL), paper, or a nonwoven material, e.g., such as spunbond/meltblown.

Referring now to the drawings, common elements in all of the drawings are referenced using the same identifying numerals.

Referring to Figures 1 - 3, a sanitary protection device 10 includes a panty shield, liner, or the like 12 (hereafter, and for ease of reference in describing the invention, "liner, or the like" will not be referred to with numeral 12, but it is understood that numeral 12 includes a "liner, or the like") and a vaginal insertion device, such as a tampon 14. The panty shield 12 has an hourglass shape, but can have an oval, straight, racetrack shape, or other shape, having a first end 16, a



second end 17, a first side 19, a second side 21 and a middle section 18. The  
panty shield 12 has a central longitudinal axis X-X. The tampon 14 is shown  
placed in a position near the middle section 18 and is positioned generally  
transverse to the length of the device 10 and to the longitudinal axis X-X of panty  
shield 12. The panty shield 12 is tri-folded over the tampon 14, for example by  
5 folding at fold lines 15, 25 (Fig. 2) to form generally planar fold panels 11, 13.  
Once folded, the fold panels 11, 13 and a base panel 9 are generally parallel to  
each other, thereby forming a generally hexahedral shape. The shield 12 and  
tampon 14 are folded in such a manner that a conventional release strip 22 of the  
10 panty shield 12 is showing, i.e., facing outwardly toward the user, on the exterior of  
the folded shield 12, as illustrated in Figure 2. The folded combination 20 including  
the shield 12 and the vaginal insertion device, such as tampon 14, is placed in a  
separate pouch 23 having closed or sealed ends 26, 28, thereby forming a  
feminine sanitary protection package 24. The package 24 can be closed at both  
15 ends 26 and 28 by ultrasonic sealing, heat sealing, adhesive sealing, embossing,  
or any other means well known in the art.

Due to the tri-folded shape of panty shield 12 over tampon 14, several  
advantages are created. One of these is the elimination of the curling tendency  
associated with those prior art napkins or panty shields that are rolled about a  
20 tampon or other similar device. Upon removing tri-folded panty shield 12, it can be  
easily smoothed-out along fold lines 15, 25, thereby reassuming its desired shape  
or form, and allowing the panty shield to be easily adhered onto an undergarment.

Another advantage with the present invention is that the tri-folded panty  
shield 12 does not diminish the comfort or absorbency in the Z-direction, which is  
25 associated with those earlier attempts with a rolled napkin or panty liner.

Still another advantage with the present invention is that the tri-folded panty shield 12 will not lose its embossing or other surface characteristic, which can exist with those earlier attempts utilizing a rolled napkin or panty liner.

Referring now to Figure 4, a sanitary protection device 30 includes a panty shield 12 and a different vaginal insertion device, such as a tampon applicator 5  
outer tube 34 and a plunger 35. A tampon having withdrawal string 132 is positioned in the outer tube 34, and the plunger 35 is designed to be inserted into the outer tube 34. The tampon applicator 33, having an outside tube 34 and a plunger 35, is shown placed in a position near middle section 18. Both the outside  
10 tube 34 and the plunger 35 are positioned generally transverse to the length of the device 30 and to the longitudinal axis X-X of the panty shield 12. The panty shield 12 is tri-folded over the tampon applicator 34 and plunger 35 in a manner similar to that with reference to shield 12 and tampon 14 in Figures 1 - 3, and can be  
packaged in a pouch 23, similar to that in figure 3.

Referring now to Figure 5, there is illustrated a vaginal suppository 114 that  
15 can be similarly used with panty shield 12 by substituting suppository 114 for, by way of example, tampon 14 in Figure 1 or tampon applicator 33 in Figure 4. Vaginal suppository 114 is then folded over by the panty shield 12 in a similar manner, and can be packaged in a pouch 23, similar to that illustrated in Figure 3.

Referring now to Figures 6 and 7, a sanitary protection device 50 includes a  
20 panty shield 52 and a vaginal insertion device, such as a tampon 14. The panty shield 52 can have an oval, straight, racetrack, hourglass, or other shape with a first end 56, a second end 57, and a middle section 58. The panty shield 52 has a central longitudinal axis X-X. The panty shield 52 has a backing 60 made of a  
25 material preferably composed of a plastic material such as polyethylene or

polypropylene, but may be composed of other materials, e.g., such as polyethylene oxide (PEO), polyvinyl alcohol (PVOH), polycaprolactone (PCL), paper, or a nonwoven material, e.g., such as spunbond/meltblown.

5 The backing 60 protects the adhesive side of the panty shield 52 so that the adhesive remains clean and uncontaminated prior to attachment of the panty shield 52 to the crotch of a wearer's panty. The backing 60 is oversize in the sense that it is larger in dimension than the panty shield 52. The backing 60 can be rectangular in shape having dimensions in the range of about 17 - 21 centimeters (cm) in length and about 6.5 to 10.5 cm in width, as compared to a panty shield 52 having  
10 dimensions of about 16 cm in length and about 5.5 cm in width. Since the dimensions of the panty shield 52 can vary, the backing 60 can have dimensions in the range of about 1 - 5 cm more in length and about 1 to 5 cm more in width than the panty shield 52. By oversize dimension, it is meant larger than the panty shield 52. The purpose of the oversize dimension of backing 60 is to provide for the  
15 packaging pouch of the present invention.

The tampon 14 is shown placed in a position near the middle section 58 and is positioned generally transverse to the length of the device 50 and to the central longitudinal axis X-X. The panty shield 52 is tri-folded over the tampon 14 in a manner similar to that of panty shield 12 and tampon 14 in Figure 1. The  
20 backing 60 is then suitable bonded in order to form a pouch 70 as illustrated in Figure 7. Thus, the folded pouch 70 is formed of backing 60. The folded pouch 70 can be closed and suitable sealed at both ends 72 and 74 after the panty shield 52 is folded over tampon 14. The folded pouch 70 can be closed and sealed at both  
25 ends 72 and 74 by ultrasonic sealing, heat sealing, adhesive, embossing, or any other means well known in the art.

The backing 60 protects the adhesive side of the panty shield 52 and eliminates the need for a release strip on the adhesive backed panty shield. The pouch 70 serves as a transporting and disposing medium, which is sealed to protect the cleanliness of the panty shield 52 and tampon 14.

5           The backing 60 is designed to serve as a releasable peel strip to be removed by the user prior to attachment of the shield 52 to the inner crotch portion of her undergarment. The backing 60 can be a white Kraft paper which is coated on one side so that it can be released readily from the adhesive side of the panty shield 52. The coating can be a silicone coating, such as a silicone polymer commercially available from Akrosil having an office located at 206 Garfield  
10           Avenue, Menasha, Wisconsin 54952.

          In a manner similar to that described in Figures 6 and 7 with reference to tampon 14, a tampon applicator 33 comprising an outer tube 34 and an inner tube 35 (Fig. 4) can be substituted for tampon 14 in Figures 6 and 7. Thus, the folded  
15           pouch 70 would then comprise the panty shield 52 and the tampon applicator 33.

          Again, in a similar manner, a vaginal suppository, similar to suppository 114 in Figure 5, can be substituted for the tampon in Figure 6. Thus, the folded pouch 70 then comprises the panty shield 52 and the vaginal suppository 114.

          If desired, the vaginal suppository 114 can also include an outer tube and a  
20           plunger, similar to that of tube 34 and plunger 35 in Figure 4, and then tri-folded with the panty shield 12 of Figure 1 or Figure 6.

          One construction and material composition of a panty shield 12 is the absorbent pad described in U.S. 4,372,312, which issued February 8, 1983; the contents of which are incorporated by reference herein. Another example of a  
25           panty shield is the absorbent pad described in U.S. 3,881,490, which issued on

May 6, 1975; the contents of which are incorporated by reference herein. One example of the construction and material composition of a tampon is the tampon described in U.S. 5,807,372, which issued September 15, 1998; the contents of which are incorporated by reference herein.

5           While this invention has been described as having a preferred embodiment, it will be understood that it is capable of further modifications. It is therefore intended to cover any variations, equivalents, uses, or adaptations of the invention following the general principles thereof, and including such departures from the present disclosure as come or may come within known or customary practice in the  
10           art to which this invention pertains and falls within the limits of the appended claims.

What is claimed is:

1. A feminine sanitary protection package, comprising:

a vaginal insertion device;

a panty shield being tri-folded over said vaginal insertion device to form a combination including said panty shield and said vaginal insertion device; and

5 a pouch containing said combination, said pouch providing for transporting and disposing of said combination.

2. The package of claim 1 wherein said vaginal insertion device comprises a tampon.

3. The package of claim 1 wherein said vaginal insertion device comprises a vaginal suppository.

4. The package of claim 2 wherein said vaginal insertion device further comprises a tampon applicator.

5. The package of claim 3 wherein said vaginal insertion device further comprises a vaginal suppository applicator.

6. The package of claim 1 wherein said pouch provides a release strip for said panty shield.

7. A method for providing a feminine care sanitary protection package comprising the steps of:

providing a vaginal insertion device;

5 providing a panty shield;

tri-folding the panty shield over the vaginal insertion device to form a combination including the panty shield and the vaginal insertion device; and

providing a pouch for the combination for transporting and disposing of the combination.

8. The method of claim 7 wherein the vaginal insertion device comprises a tampon.

9. The method of claim 7 wherein the vaginal insertion device comprises a vaginal suppository.

10. The method of claim 8 wherein the vaginal insertion device further comprises a tampon applicator.

11. The method of claim 9 wherein the vaginal insertion device further comprises a vaginal suppository applicator.

12. The method of claim 7 wherein the step of providing the pouch around the combination further comprises providing a release strip for the panty shield.

13. A feminine sanitary protection package, comprising:

a vaginal insertion device,

a panty shield being folded over said vaginal insertion device to form a

5 combination including said panty shield and said vaginal insertion device;

a release strip on said panty shield; and

a pouch providing for transporting and disposing of said combination.

14. The package of claim 13 wherein said vaginal insertion device comprises a tampon.
15. The package of claim 13 wherein said vaginal insertion device comprises a vaginal suppository.
16. The package of claim 14 wherein said vaginal insertion device further comprises a tampon applicator.
17. The package of claim 15 wherein said vaginal insertion device further comprises a vaginal suppository applicator.
18. The package of claim 13 wherein said pouch provides said release strip.



1/6

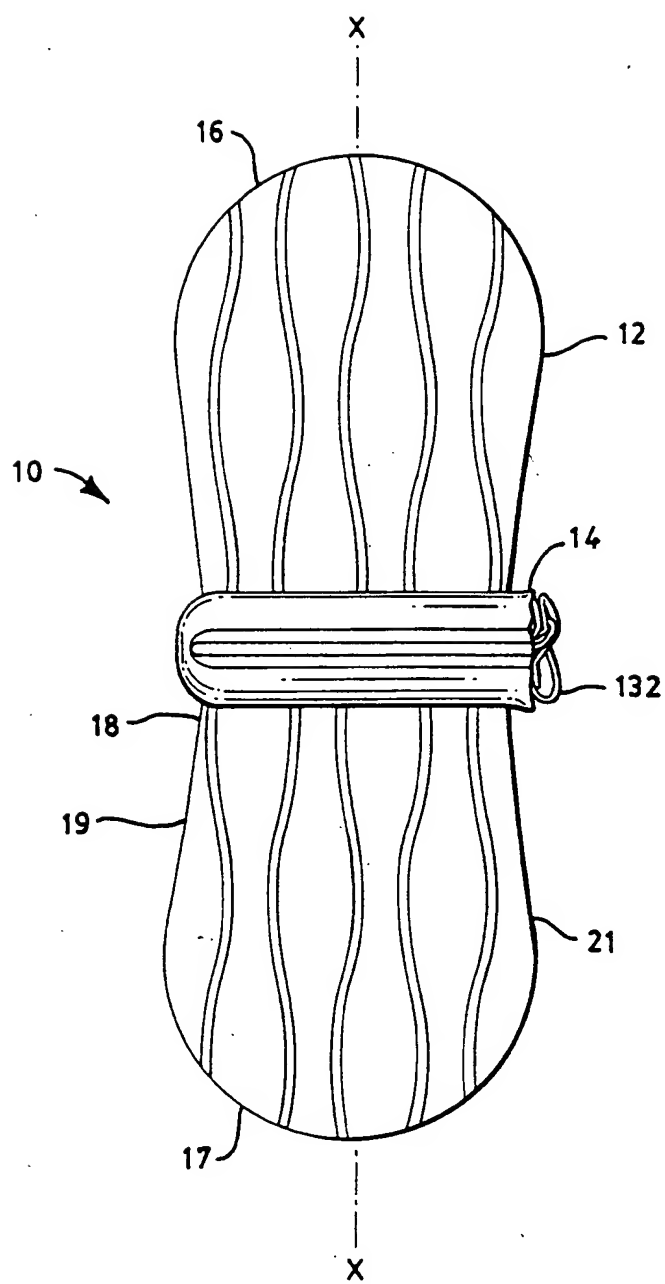


FIG. 1

2/6

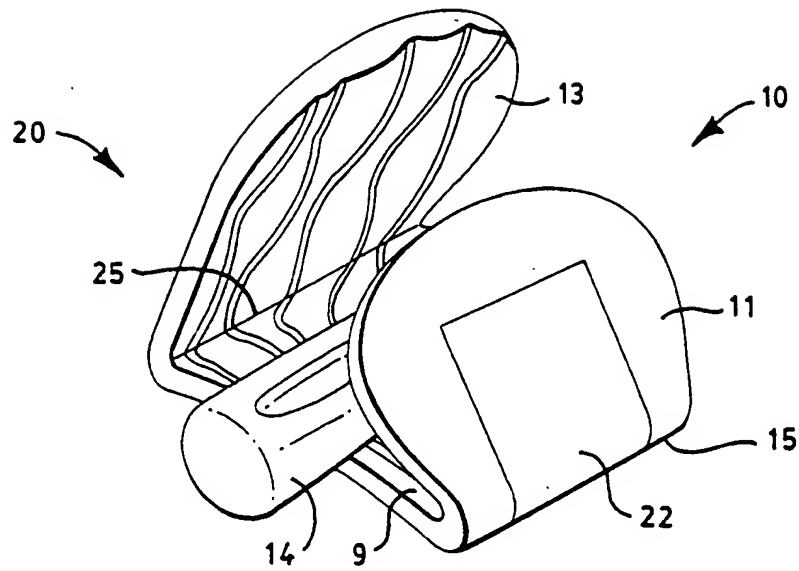


FIG. 2

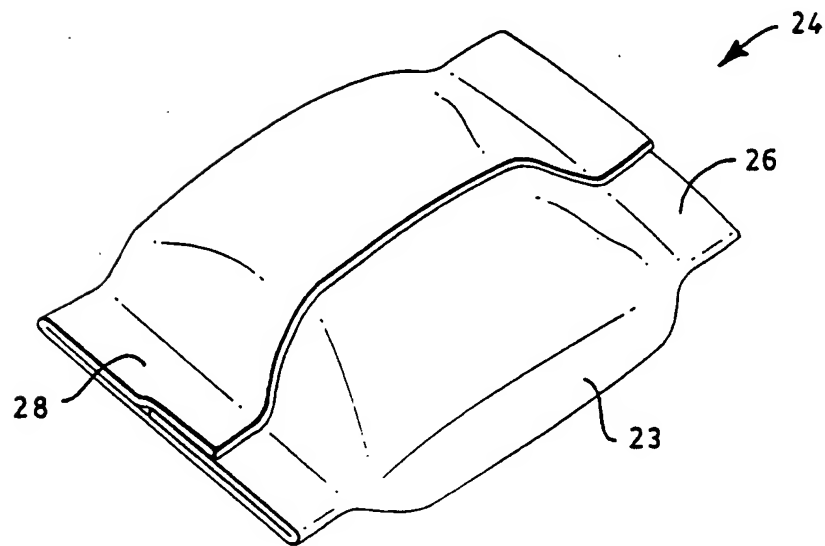


FIG. 3

3/6

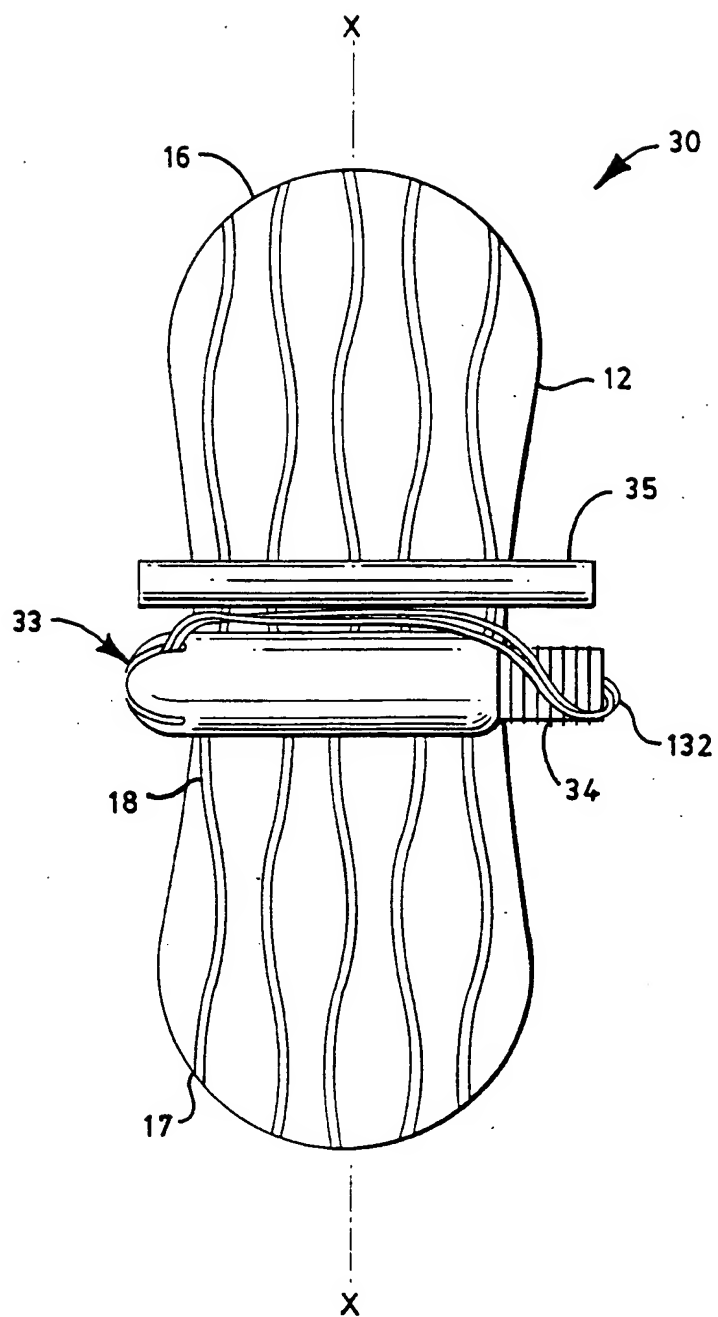


FIG. 4

4/6

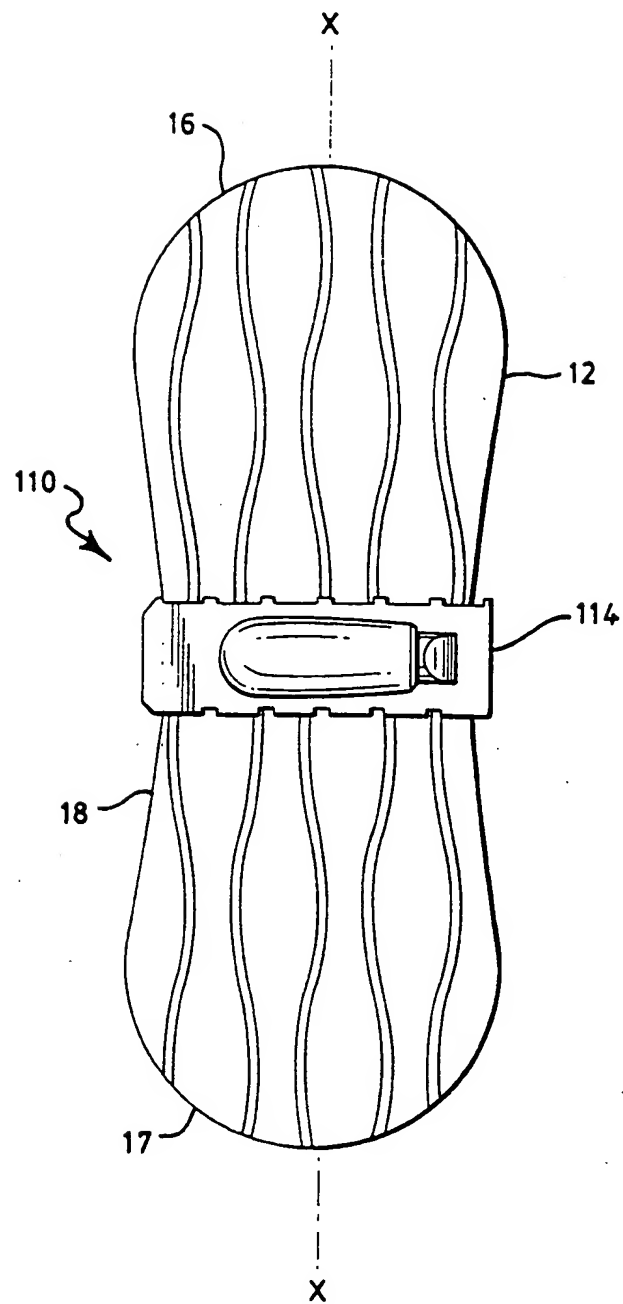


FIG. 5

5/6

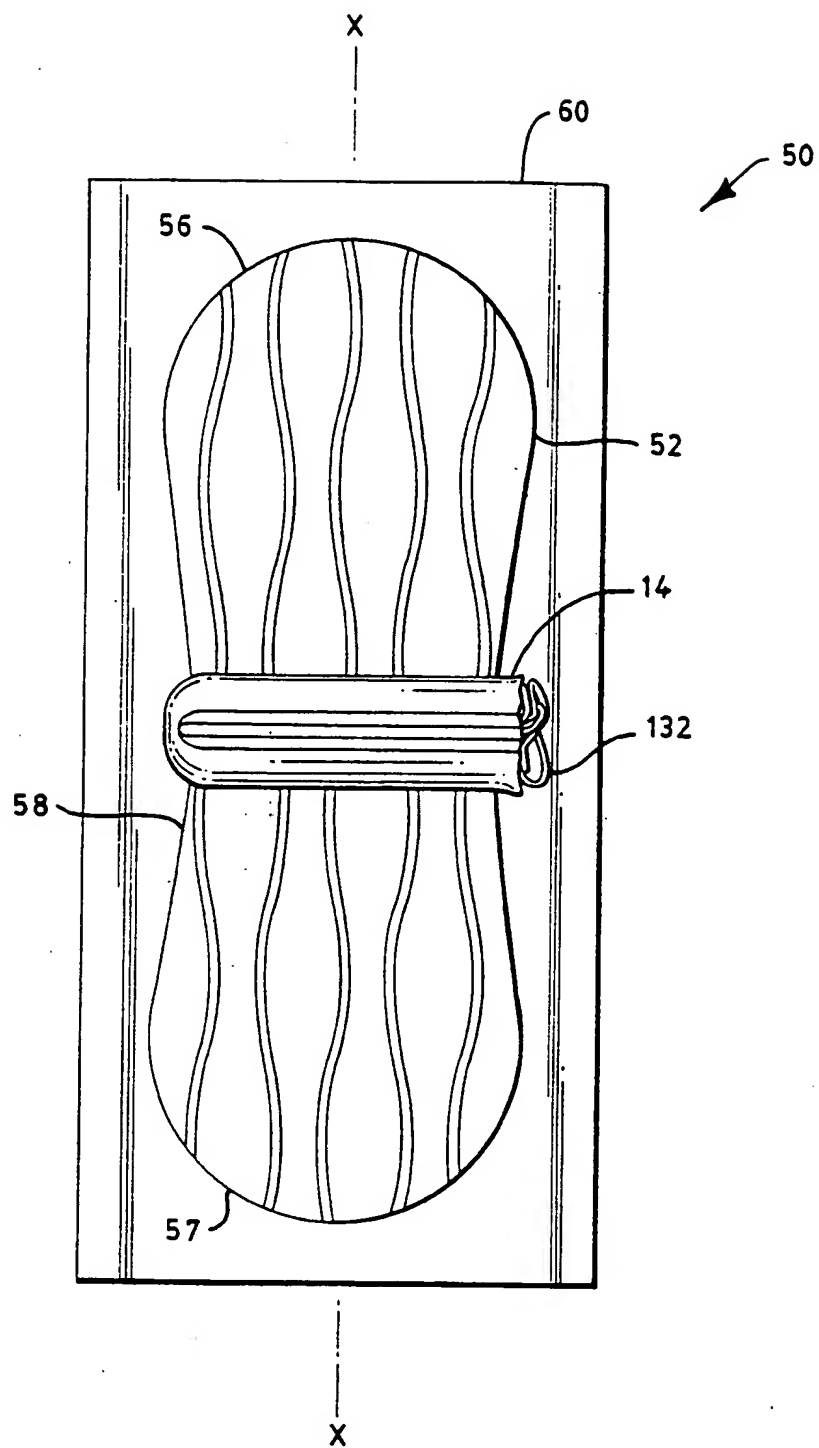


FIG. 6

6/6

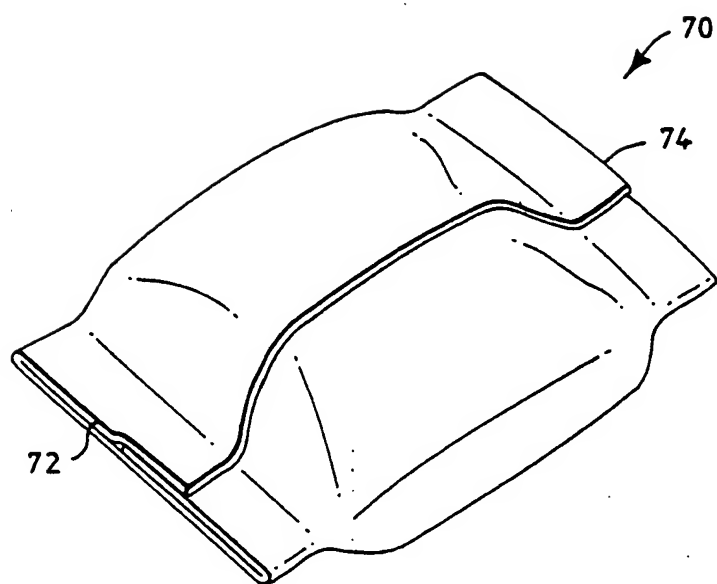


FIG. 7

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 A61F13/15

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 986 165 A (KUBALEK RICHARD W ET AL) 16 November 1999 (1999-11-16) the whole document	1-18
A	US 5 954 201 A (LARSEN JANET JESSIE ET AL) 21 September 1999 (1999-09-21) claims; figures	1,7,13

☐ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.**\* Special categories of cited documents:**

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Date of the actual completion of the international search

20 March 2001

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29/03/2001

Name and mailing address of the ISA

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## INTERNATIONAL SEARCH REPORT

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